LOCATIONS AND ACCOMMODATIONS

Hotel Reservations must be made 4 weeks prior to the seminar. Rates apply only the day before and the last day of the seminar.

SACRAMENTO, CA
JANUARY 20-22, 2010
Hilton Garden Inn Sacramento / South Natomas
2540 Venture Oaks Way
Sacramento, CA 95833
916-568-5400
ASCE Hotel Rate: $149 Single/Double

ORLANDO, FL
MARCH 3-5, 2010
Radisson Worldgate Resort
3011 Maingate Lane
Kissimmee, FL 34747
407-396-1400
ASCE Hotel Rate: $79 Single/Double

Visit ASCE Publications at http://pubs.asce.org/journals/

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ASCE offers online courses on a variety of technical and management topics, as well as courses on DVD and CD. For a complete listing of these courses or to register, please go to **http://store.asce.org/view**. ASCE members receive discounts of 15% or more on most online courses. Volume discounts available.

CEUS/PDHS

ASCE has been approved as an Authorized Provider by the International Association for Continuing Education and Training (IACET), 1760 Old Meadow Road, Suite 500, McLean, VA 22102. In addition, ASCE follows NCEES guidelines on continuing professional competency. Since continuing education requirements for P.E. license renewal vary from state to state, ASCE strongly recommends that individuals regularly check with their state registration board(s) on their specific continuing education requirements that affect P.E. licensure and the ability to renew licensure. For details on your state's requirements, please go to: http://www.ncees.org/licensure/licensing_boards/.

SEMINARS

Confirmation Letter and Time/Location: All seminar registrations will be confirmed by email within one week of receiving your registration. Seminar time, location and hotel information will be included with your confirmation letter. Seminar fees include all course materials. Fees do not include hotel accommodations or meals. Hotel reservations should be made early as discounted rates are subject to cut-off dates.

Instructor Substitution: ASCE reserves the right to substitute an equally-qualified instructor for any seminar should unforeseen circumstances arise.

Cancellations: Cancellations must be made in writing via email or fax and must include registrant's name, confirmation # and name/date of the seminar. If you cancel 7 business days or less prior to the seminar start date, no refund/credit/personal transfers will be issued. You may transfer your registration to another registrant with no penalty up until the day of the seminar.* No credits/ refunds/personal transfers will be issued for no shows. If ASCE must cancel a seminar due to insufficient enrollment, your registration fee will be refunded in full. ASCE is not responsible for non-refundable expenses such as airfare, hotels, transfer fees, or any other expenses associated with a cancellation.

**Price differential will be charged if a non-member is replacing a member. Transfer may only be used one time, no multiple transfers allowed.*

CEUs/Certificates: One (1.0) CEU equals ten contact hours of instruction. A CEU certificate will be issued to each person who successfully completes a seminar and a permanent record will remain on file with ASCE. One (1.0) Continuing Education Unit (CEU) = Ten (10) Professional Development Hours.

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Dress: Casual business attire is appropriate for all seminars.

Discounted Airfares: Use American Airlines and save money on airfares when traveling to ASCE Seminars. Call American Airlines at 1-800-433-1790 and refer to ID number A1319SS, 7 days a week from 7:00 AM to 12:00 midnight Eastern Time. If you wish to use a travel agency, you must tell your agent to book your reservation under the above ID number to receive your discount.

Rental Cars: Special rates are available with Enterprise Rent-A-Car. Visit www.enterprise.com or call 1-800-736-8222 to make a reservation. Please use Code 16VCS73 and Password ASC to obtain your discounted rates.

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Sediment Transport Analysis Using HEC-RAS

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Locations *Please check one*

☐ Sacramento, CA/Jan. 20-22, 2010 *70982010*
☐ Orlando, FL/March 3-5, 2010 *70992010*

Fees *Please check one*

A copy of your check or PO is required when faxing your registration

☐ $1,435 Member
☐ $1,645 Non-Member

ASCE Distance Learning

Hands on HEC-RAS *HEC49*
☐ $195 Member
☐ $245 Non-Member
(add $6.95 for shipping first item, $2.50 each additional item)*
*additional cost outside the USA and for overnight delivery.

Please route to a colleague who will benefit by attending

How to reach us:

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Continuing Education ASCE

SEDIMENT TRANSPORT ANALYSIS USING HEC-RAS

Sacramento, CA / January 20-22, 2010
Orlando, FL / March 3-5, 2010

"This course is very helpful for learning the new features of HEC-RAS."
- Matthew Zeve, Dodson & Associates, Houston, TX

"Great course for understanding the do's and dont's of sediment transport analyses. Instructors did a good job tying concepts to "real world" examples."
- Scott Lyle, Lyle Engineering, Inc., Carlsbad, CA

"This seminar helped keep me up-to-date with the latest HEC-RAS software development."
- Randy Goetz, Otis Bay Ecological Consultants, Reno, NV

"This course is taught by experienced instructors and presents real life complex engineering applications."
- Ehab Meselhe, University of Louisiana Lafayette, Lafayette, LA

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please pass this on to someone who does.

2.4 CEUs

SEDIMENT TRANSPORT ANALYSIS USING HEC-RAS

PURPOSE AND BACKGROUND

This intensive three-day seminar will prepare the engineer and water resource professional to use the HEC-RAS computer program for running sediment transport analyses. Led by experts from WEST Consultants with practical experience in sediment transport modeling, participants will learn how to approach and conduct a sediment transport study using HEC-RAS, including handling input parameters and boundary conditions, selecting a transport function, and performing calibration and sensitivity analyses.

The HEC-RAS modeling system was developed as part of the Hydrologic Engineering Center's "Next Generation" software and replaces several existing Corps of Engineers programs, including the HEC-2 water surface profile program. The recently released version 4.0 of HEC-RAS incorporates various aspects of hydraulic modeling, including water surface profile computations and bridge hydraulics, and for the first time, sediment transport modeling.

Version 4.0 of HEC-RAS includes advances in open channel hydraulic and sedimentation analysis such as:

- Sediment Transport/Movable Bed Modeling
- Sediment Impact Analysis Methods (SIAM)
- Stable Channel Design Tools

HEC-RAS is user friendly, computationally efficient, and runs within, and fully supports, the Microsoft Windows environment. It uses the latest graphical user interface (GUI) technology for data entry, graphics, and display of program results. Complete context-sensitive help screens are available for every program feature and option. Software includes the following functions: file management, data entry and editing, hydraulic analyses, tabulation and graphical displays of input and output data, reporting facilities, and on-line help.

HEC-RAS is one of the most extensively-tested civil engineering computer programs ever developed. In addition to extensive in-house testing at the Hydrologic Engineering Center and at other Corps of Engineers' offices, the program has been through two full "beta" releases, during which the program was tested by thousands of engineers in the private and public sectors.

NOTE: Participants need a thorough understanding of open channel hydraulics; particularly the assumptions, limitations, and use of procedures for computing open channel flow properties such as water surface elevation and velocity. Participants should be familiar with running HEC-RAS for steady flow analyses.

SEMINAR FEATURES

Workshop participants receive the following publications and software:

- HEC-RAS software (latest version)
- HEC-RAS Hydraulic Reference Manual (on CD)
- HEC-RAS User's Manual (on CD)
- HEC-RAS Course Notes
- HEC-RAS Applications Manual (on CD)

SEMINAR BENEFITS AND LEARNING OUTCOMES

- Learn how to use the U.S. Army Corps of Engineers' HEC-RAS (River Analysis System) computer program to conduct sediment transport analyses
- Gain hands-on HEC-RAS experience by participating in practical computer workshops
- Get an overview of sedimentation principles for rivers, and how they work within a sediment transport model
- Understand sediment transport methods and how to choose one
- Learn how to identify and solve problems with sediment models

ASSESSMENT OF LEARNING OUTCOMES

Students' achievement of the learning outcomes will be assessed through a student survey.

WHO SHOULD ATTEND

Consulting engineers, water resource planners, engineers employed by local, state, or federal government agencies who currently execute and/or review sedimentation studies or plan to in the future. Participants should have sound experience in HEC-RAS steady flow computer modeling. They should also be able to follow simple computer instructions.

INSTRUCTORS

The seminar will be taught by one of the following qualified instructors:

Martin J. Teal, P.E., P.H., D. WRE, M.ASCE, has worked with hydraulic models for more than 20 years and is currently a Vice President with WEST Consultants. His experience includes working as a hydraulic engineer for the U.S. Army Corps of Engineers and as a civil engineer for a large multinational firm in Chile. As a private consultant with WEST, he has dealt with complex hydraulic, hydrologic, and sedimentation problems. He has used computational models, such as HEC-RAS and HEC-6, as a principal tool to deal with these problems for clients in both the public and private sectors throughout the United States and internationally. Examples of his sedimentation modeling experience include reservoir sedimentation of main stem dams on the Missouri River, and studies for rivers and washes in eight states. Mr. Teal earned his BS in Civil Engineering from the University of California, Berkeley, and his MS in Civil and Environmental Engineering (Hydraulics) from the University of Iowa. He has taught HEC-RAS courses since 1997 throughout the U.S. and Latin America.

Christopher R. Goodell, P.E., D.WRE, M.ASCE, is a senior hydraulic engineer with WEST Consultants with over 13 years of experience in computational hydraulics, river hydraulics and hydraulic design. He spent two years at the Hydrologic Engineering Center (HEC) actively working on the development of HEC-RAS. In addition, Mr. Goodell is a contributing author to the HEC-RAS manuals and has applied HEC-RAS to a wide range of complex problems, including dam breaks, bridge and culvert hydraulics, spillway and outlet works design, stable channel design, and floodplain mapping. He also has experience in moveable bed hydraulics and has contributed to the incorporation of sediment transport and sediment impact modeling into HEC-RAS. Mr. Goodell earned his B.S. degree in civil engineering at Oregon State University and his M.Eng. in Hydraulic Engineering from the International Institute for Hydraulic Engineering (IHE) in Delft, The Netherlands. Mr. Goodell has taught HEC-RAS courses and provided technical support for HEC-RAS since 2000.

Dragoslav Stefanovic, Ph.D., P.E., D.WRE, M.ASCE, has over 15 years engineering and research experience in hydraulics, systems analysis of rivers and watersheds, river mechanics, environmental fluid mechanics and sediment transport modeling. He has applied the HEC-6 and HEC-6T sediment transport models to a number of projects including Oak Glen Creek Detention Basins in the City of Yucaipa, California to assess the trapping efficiency of sediment basins; the Murrieta Creek Flood Control and Environmental Restoration Project in Temecula, California, conducting hydraulic and sedimentation analyses for the U.S. Army Corps of Engineers, Los Angeles District; Cyrus Wash near Bakersfield, California; and Santa Gertrudis Creek and Long Valley Wash near Temecula, California.

NOTE: In the event that one of the listed instructors is unavailable to teach the seminars, a qualified instructor from WEST Consultants will be appointed to replace him. Questions? Please call ASCE Continuing Education at 1-800-548-2723.

SAVE 10% Send three or more from the same organization to the same seminar and Save 10% on each enrollment

Summary Outline

TIME: 8:00am – 5:00pm

Day One

Sediment Transport in Natural Streams
Introduction to HEC-RAS and Sediment Modeling
Executing HEC-RAS for Sediment and Reading Output
Basic Sediment Transport Workshop
Hydraulic Sorting and Armoring
Selection of Sediment Transport Relations

Day Two

Steps in Performing Sediment Studies
Development of Sediment Data Workshop
Calibration and Verification Techniques
Calibration and Verification Techniques Workshop

Day Three

Methods for Estimating Sediment Yield
Troubleshooting an HEC-RAS Sediment Model
Troubleshooting an HEC-RAS Sediment Model Workshop
Field Reconnaissance for Sediment Studies
Stable Channel Design using HEC-RAS
Sediment Impact Analysis Methods (SIAM) Tools in HEC-RAS

ASCE DISTANCE LEARNING

HANDS ON HEC-RAS *–NEW!*

The purpose of this seminar-on-CD is to walk you through the process of creating and executing a detailed model in HEC-RAS. Several of the seminar models are "un-finished" and the guide recreates the steps to give you a good hands-on introduction to the program. Although we will be dealing with models of very small stream systems, the steps used are exactly the same as when dealing with very large complex systems. 4 hours. ***0.4 CEUs***

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